In the Claims:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Currently amended) A photodetector amplifier circuit comprising:

a photodetector;

an input transistor connected to the photodetector;

an integration capacitor connected to an output of the input transistor; and

an adaptive skimming circuit connected to the integration capacitor, the adaptive skimming circuit comprising:

a current source transistor;

a programming capacitor connected to the current source transistor;

a programming transistor connected to the current source transistor and the programming capacitor;

a cascode transistor connected to the current source transistor and the input transistor;

a reset transistor connected to the input transistor; and

~~The circuit of Claim 3, wherein the adaptive skimming circuit comprises~~

a kTC-noise reducing capacitor connected between the programming transistor and the programming capacitor.

5. (Original) The circuit of Claim 4, wherein the adaptive skimming circuit further comprises a trim capacitor connected to the current source transistor, the programming capacitor, and the programming transistor.

6. (Original) The circuit of Claim 5, further comprising an external voltage transistor connected to the programming transistor.

7. (Original) The circuit of Claim 6, further comprising a source follower transistor connected to the output of the input transistor.

8. (Original) The circuit of Claim 6, further comprising an access transistor connected between the input transistor and a bus.

9. (Original) The circuit of Claim 8, further comprising an external capacitor connected to the bus.

10. (Original) The circuit of Claim 5, further comprising a negative feedback amplifier connected between the photodetector and the input transistor, wherein the photodetector is a low impedance detector.

11. (Currently amended) A pixel cell comprising:

an input transistor;

a photodetector coupled to the source of the input transistor;

an integration capacitor for storing a charge proportional to an amount of incident light on the photodetector; and

an adaptive skimming circuit formed in the pixel cell and connected only to the pixel cell comprising:

a current source transistor connected across the integration capacitor;

a cascode transistor connected to the current source transistor and the input transistor;

a reset transistor connected to the input transistor;

a programming capacitor connected to the current source transistor; and

a programming transistor connected to the current source transistor;

wherein a current source provided by the current source transistor sinks a set level of current during integration of a charge on the integration capacitor, such that a photodetector current is optimized at each pixel.

12. (Original) The pixel cell of Claim 11, wherein the adaptive skimming circuit further comprises a trim capacitor.

13. (Original) The pixel cell of Claim 12, wherein the adaptive skimming circuit further comprises a kTC-noise reducing capacitor connected between the programming transistor and the programming capacitor.

14. (Original) The pixel cell of Claim 13, further comprising an external voltage transistor connected to the programming transistor.

15. (Original) The pixel cell of Claim 14, further comprising a source follower transistor connected to the output of the input transistor.

16. (Original) The pixel cell of Claim 14, further comprising an access transistor connected between the input transistor and a bus.

17. (Original) The pixel cell of Claim 16, further comprising an external capacitor connected to the bus.

18. (Original) The pixel cell of Claim 14, further comprising a negative feedback amplifier connected between the photodetector and the input transistor, wherein the photodetector is a low impedance detector.

19. (Original) A focal plane array (FPA) having a plurality of pixel cells, each pixel cell comprising:

an input transistor;

a photodetector coupled to the source of the input transistor;

an integration capacitor for storing a charge proportional to an amount of incident light on the photodetector; and

an adaptive skimming circuit comprising:

a current source transistor connected across the integration capacitor;

a cascode transistor connected to the current source transistor and the input transistor;

a reset transistor connected to the input transistor;

a programming capacitor connected to the current source transistor;

a programming transistor connected to the current source transistor;

a trim capacitor connected to the programming transistor; and

a kTC-noise reducing capacitor connected between the programming transistor and the programming capacitor;

wherein a current source provided by the current source transistor skims off current during integration on the integration capacitor.

20. (Cancelled)

21. (Currently amended) A method for skimming current in an amplifier circuit, the method comprising:

generating a signal proportional to an amount of light incident on a photodetector;

producing a sink current; and

reading out a signal that is proportional to the difference between the generated signal and the sink current;

~~The method of Claim 20,~~ wherein producing a sink current comprises:

setting a gate voltage of a skimming transistor by applying an enabling pulse to a programming transistor that produces a replicating current in the skimming transistor; and

applying a trimming voltage to a trimming capacitor.

22. (Currently amended) The method of Claim ~~20~~ 21, wherein further comprising storing the generated current into a capacitor, and reading out the

signal from the capacitor, such that the sink current sinks a set level of a signal read out from the capacitor.

23. (Currently amended) An amplifier circuit for coupling infrared (IR) detectors to multiplexing readouts, the circuit comprising:

detector means for converting incident light to an input electric signal;

signal input means for transferring the input electric signal from the detector means;

storage means for storing a charge from the detector; and

skimming means for skimming off a predetermined level of the input electrical signal, the skimming means comprising a kTC-noise reducing capacitor;

wherein the skimming means produces a sink current to skim off a signal read out from the storage means.

24. (Original) An amplifier circuit for coupling infrared (IR) detectors to multiplexing readouts, the circuit comprising:

an input transistor;

a detector coupled to a source of the input transistor;

a current source transistor having a drain connected to a drain of the input transistor;

an integration capacitor connected between the drain and a source of the current source transistor;

a programming capacitor connected between a gate and the source of the current source transistor;

a programming transistor having a drain connected to the drain of the current source transistor, and a source connected to the source of the current source transistor;

a trim capacitor connected to the source of the programming transistor and the gate of the current source transistor;

a kTC-noise reducing capacitor connected between the source of the programming transistor and the gate of the current source transistor.

25. (Original) The circuit of Claim 24, further comprising:

a reset transistor having a drain connected to the drain of the input transistor; and

a cascode transistor having a drain connected to the drain of the input transistor, and a source connected to a drain of the current source transistor.

26. (Original) The circuit of Claim 25, further comprising an external voltage transistor having a drain connected to the source of the programming transistor, and a source connected to an external voltage.

27. (Original) The circuit of Claim 26, further comprising a source follower transistor having a source connected to the drain of the input transistor.

28. (Original) The circuit of Claim 27, wherein the integration capacitor and the programming capacitor are formed from MOSFETs.